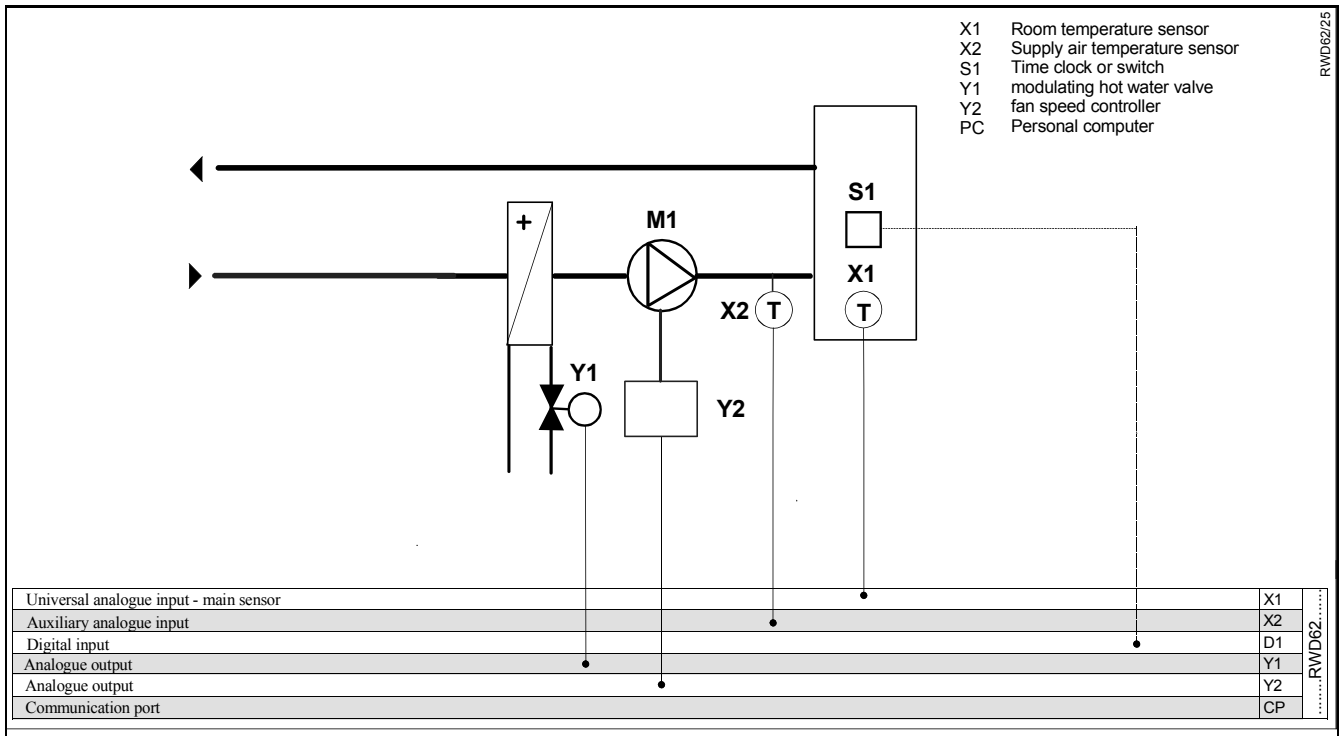


**RWD62 Universal Controller**  
**Application 25**  
**Cascade control**

Room temperature control  
 Hot water control valve  
 Supply fan speed control

- Control (P or PI)
- Room temperature control
- Proportional control ( 0..10Vdc ) of the hot water valve.
- Proportional control ( 0..10Vdc ) of the fan speed.
- Cascade control.
- Optional day / night set point adjustment .



**Supplemental features**

**Control**

- Room temperature sensor can be selected as Ni1000, Pt1000, or active sensor.
- Single heating setpoint at Y1 – 0% output, no dead zone between Y1 and Y2.
- Adjustable proportional band of analogue output Y1.
- Adjustable proportional band of analogue output Y2.
- Adjustable Integral action function selection and adjustment for Y1 & Y2.
- Duct temperature sensor can be selected as Ni1000, Pt1000, or active sensor.
- Cascade control of the supply air by the room temperature sensor.

**Operating modes**

- Day / night set points can be selected via time clock or switch.

**Description of operation**

The temperature sensor senses the room conditions and on a fall in temperature the RWD62 via Y1 analogue output modulates the hot water valve as determined by the Y1 heating set point and proportional band (XP) setting.

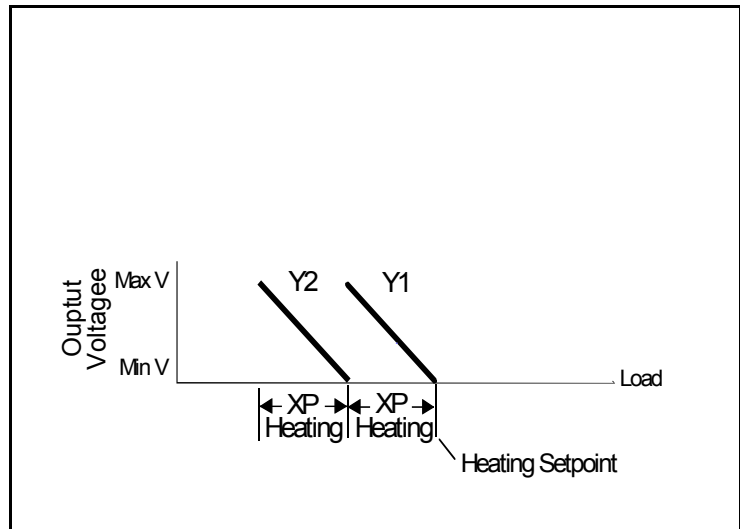
On a further fall in temperature the RWD62 via the Y2 analogue output modulates the supply fan via a fan speed controller, as determined by the proportional band (XP) setting.

Y2 output begins immediately after Y1 reaches maximum output, there is no dead zone between Y1 and Y2 output.

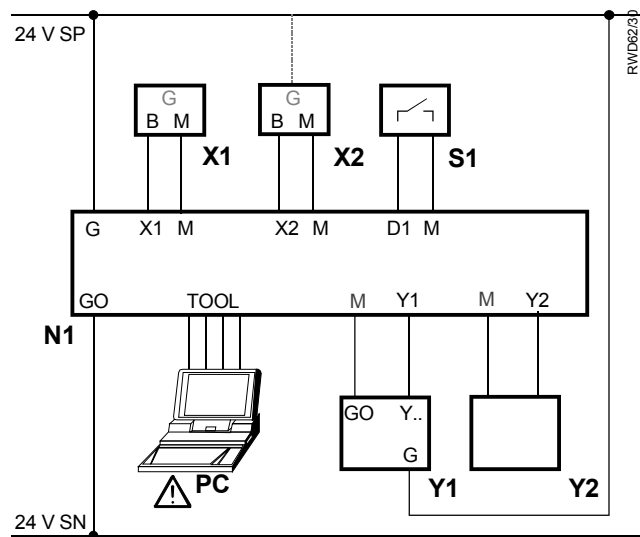
Cascade control is where deviation of room temperature from set point adjusts the control point of the leaving air temperature sensor controlling heating

Heating sequences

**Function diagram**



**Connection diagram**



**RWD62**

- N1 RWD62 controller
- X1 Main temperature sensor
- X2 Supply air temperature sensor
- S1 Time clock or switch
- Y1 Heating control valve with 0..10Vdc input
- Y2 Fan speed controller with 0..10Vdc input
- PC Personal computer

## Main Display



The main display shows ,

- Y1 output in Volts dc. (0..10V = 0..100% range)
- Y2 output in Volts dc. (0..10V = 0..100% range)
- Whether day or night set point is selected. ( ☒ = day, ( = night)
- X1 value ( room temperature) in ° C.

Other displays are available by pressing the + button, and the various displays are listed below in sequence from the main display.

On entering any of the four set point displays, the setpoint on display can be adjusted by pushing the ● enter/save button, increase value by pressing the ▲+ button or decrease the value by pressing the ▼- button, and when the required value is reached, press the ●enter/save button to save the new value.

The alternative displays return to the main display after 20 seconds.

Press buttons	Action	Current display	Selected display	Selected display comments.
▲	Push + button	Y1 Y2 ☒ X1	SP – h ☒ 25.0c	heating day set point.
▲	Push + button	SP – h ☒ 25.0c	SP – h ( 16.0c	heating night set point.
▲	Push + button	SP – h ( 16.0c	X1 22.0c	X1 - main temperature sensor reading
▲	Push + button	X1 22.0c	X2 19.0c	X2 - supply air temperature sensor reading
▲	Push + button	X2 19.0c	Y1 5.0	Y1 – heating analogue output value in Vdc to one decimal point
▲	Push + button	Y1 5.0	Y2 0.0	Y2 – heating analogue output value in Vdc to one decimal point.
▲	Push + button	Y2 0.0	CASC  25	Control sequence diagram and application number display.
▲	Push + button	 25	Y1 Y2 ☒ X1	Back to main display.

Values shown are either default values or nominated for information only

## Alternatives

- Proportional control of electric heater bank via SEM61.4 signal converter with SEA 41.2 current valve, and fan speed control.